SAGAR SAHU

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EDUCATION

Shri Shankaracharya Institute of Professional Management & Technology — **Raipur, CG**
Bachelor of Technology in Computer Science & Engineering; CGPA: 7.3/10.0 — *2023 – 2027*

EXPERIENCE

AI/ML Vocational Trainee — **Jun 2025 – Aug 2025**
IIIT Naya Raipur — *Naya Raipur, India*

- Engineered a hypertension screening system [Source Code] achieving **87.88% accuracy** on **25,201 PPG signals** by implementing advanced **APG feature extraction** and **XGBoost** classifiers.
- Attained **93.84% specificity** for clinical viability by utilizing **GroupShuffleSplit** for subject-independent validation, successfully preventing data leakage.
- Boosted model performance by **31%** (67% to 87.88%) over baseline by optimizing **frequency-domain features** (LF/HF ratio) and addressing class imbalance with **SMOTE**.

AI-ML Virtual Intern — **Oct 2025 – Dec 2025**
Google for Developers (MoE & AICTE Partnership) — *Remote*

- Achieved **Grade O (Outstanding: 90-100%)** in a competitive 10-week AI-ML internship sponsored by Ministry of Education and supported by Google for Developers through the India Edu Program.
- Mastered deep learning fundamentals using **TensorFlow** across 6 modules: neural network programming, object detection with **bounding box regression**, and advanced **CNN architectures** for image classification.
- Gained expertise in **visual search engine** development, learning similarity scoring algorithms and techniques for connecting image databases to ML models for product image retrieval and pattern recognition.

PROJECTS

Mechanic Mitra: Enterprise Multi-Agent System | *Gemini 2.5, Agentic Workflows* | *Source Code* — **Nov 2025**

- Architected a **Multi-Agent Orchestration system** with 4 autonomous agents (Visual, Audio, Pricing, Chief) engineered to streamline vehicle diagnostics from typical 45-minute manual inspections to 3-minute automated assessments.
- Engineered a persistent **DiagnosisMemory** system that improves classification accuracy over time by identifying patterns in historical fault data.
- Built production-grade resilience with **exponential backoff** and error handling to manage API rate limits (15 RPM) for the **Gemini 2.5** model.

PDF Summarizer | *Python, Gemini Flash Lite, Streamlit* | *Website* | *Source Code* — **Oct 2025**

- Reduced document analysis time by **85%** for end-users by engineering a summarization engine using **Gemini 2.5 Flash Lite**.
- Architected an intelligent caching layer to maximize free-tier API quotas, enabling sustained operation within **1,500 requests per day** capacity at zero cost.
- Ensured **99.9% uptime** for file uploads up to 5MB by managing session states securely on **Streamlit Cloud**.

SKILLS

Generative AI: Vertex AI, Gemini 2.5, Prompt Engineering, RAG Pipelines, Multi-modal Agents
Machine Learning: XGBoost, Scikit-learn, Pandas, NumPy, Gradient Descent, Signal Processing, Bio-medical Analysis
Cloud Infrastructure: Oracle OCI (Certified Professional), Google Cloud Platform (15 Verified Skill Badges)
Development: Python, SQL, Git, Streamlit, REST APIs, JSON Data Handling

CERTIFICATIONS

Oracle University: OCI 2025 Certified Generative AI Professional **(Oct 2025)** | Data Science Professional **(Oct 2025)**
Google Cloud: Generative AI Fundamentals (Udacity) | 15 Google Cloud Skill Badges (Infrastructure & AI)
Simplilearn: Machine Learning using Python **(Aug 2025)** | Python for Beginners **(Sept 2025)**
Industry: Data Analysis Using Pandas (Vodafone_VOIS) | IP Strategy (L2Pro India/Qualcomm)